1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

hours tumultuous waves come and go sporadically, while about the mile-wide boca the choppy sea sometimes takes the form of spire-like jets, spurting 5 or 10 feet high and breaking into aigrettes of glittering spray in most unwaterlike and wholly indescribable fashion. Dewey described the strait as "unsafe for navigation by any except the smallest class of vessels"; it is safe, indeed, only for portable and indestructible craft like the Seri balsas, which may be put off or carried ashore at will by craftsmen willing to wait for wind and tide, and unpossessed of impediments of a sort to be injured by wetting. Of such an environment the balsa is a natural product.

The adjunct islets of Seriland are miniatures of Tiburon in all essential respects, save that they are without fresh water. The largest is San Esteban, a somewhat complex butte rising sharply from the waters in a nearly continuous sea-cliff recording vigorous work by storms and tides; it is occasionally visited by the Seri, chiefly in search of water-fowl and eggs. The most important of the series in Seri economy and mythology is Isla Tasasne, off the mouth of Bahia Kino; it is a rugged butte some 600 feet high, rising in wave-cut cliffs on the sea side and pedimented by low spits and banks of sand toward the lea; the sand-banks are literally flocked with pelicans, while other fowl cover the flatter ledges and crowd the crannies of the pinnacle. Isla Turner is a somewhat smaller and still more rugged butte, bounded on both sides by precipitous cliffs, while Roca Foca is merely a great rock shelving upward from the storm-swept waters off the most exposed angle of Tiburon; in the crannies of the former birds nest abundantly, while the lower ledges of both are haunted by seals. Isla Patos, north of Tiburon, is a breeding-place for different water-fowl, and is especially noted as a refuge for ducks; it, too, is for the most part a rocky butte, with a sandy shelf at the eastern base. Beyond San Esteban lies the similar but smaller Isla San Lorenzo, while Isla Salsipuedes and a few other islets stretch thence northward half way to the southern point of Isla Angel de la Guarda, the second-largest island of the gulf. San Lorenzo and the smaller islets are occasionally visited by the Seri, partly for a mineral pigment used in face-painting, partly in quest of game; and they sometimes push on to the larger island to enjoy its fairly abundant game, including the easily taken iguana, amid the ruins of an ancient culture apparently akin to that of southern Mexico. Even the most frequented islets, Tasasne and Patos, can be reached only by crossing miles of open sea; but in their way the Seri are as canny navigators as they are skilful boat-builders—it is their habit to hug the shore in threatening weather, to await wind and tide for hours or days together, to set out on distant journeys only when all conditions favor, and in emergency to seize inspiration from the storm like the vikings of old, and bend supernormal power to the control of their craft.

Summarily, the prevailing features of Seriland may be said to be

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

Naturally the surveyors came into contact with the Seri tribesmen. Of them Commander Dewey wrote:

During the greater part of the year Tiburon Island is resorted to by the Seris (or Coras) tribe of Indians, who inhabit the adjacent mainland, and their huts and encampments may be seen in many places along the shore, principally on the eastern side of the island. They are reputed to be exceedingly hostile and to use poisoned arrows in opposing the landing of strangers on what they consider their domain, but during the stay of the *Narragansett* in the vicinity they were very friendly. At first they were shy and made threatening gestures, but soon finding that our intentions were peaceable, became friendly and returned our visits to the ships by frequent and lengthy calls on board ship. They are very expert in hunting with the bow and arrow and in catching fish and turtles, which abound in the surrounding waters. The canoes of these Indians deserve especial mention. They are made of long reeds, which are bound together with strings after the manner of fascines, three of which when fastened together . . . have sufficient buoyancy to support one or two persons. They kneel in these canoes when paddling, the water being at the same level in the canoe as outside of it.[1]

Illustrations of the "Tiburon canoe" (or balsa), drawn by H. Von Bayer, were also introduced.[2] In addition Mr Von Bayer succeeded in obtaining two photographs of Seri Indians, taken on shipboard; one of these is of special interest in that it illustrates the peculiar attitude of the Seri archer in the act of using his weapon.[3]

Unfortunately the surveys were confined to the coast, and the interior remained unmeasured and unmapped save on the basis of tradition and travelers' tales, supplemented by a few vague itineraries and traverses. Except along the international boundary and the railway (Ferrocarril de Sonora), the locations of pueblos and ranchos remained guesses, the delineation of mountains remained a work of imagination, and even the best cartographers continued to run in rivers at random or in such wise as to afford artistic effect.[4]

In 1879 M Alphonse L. Pinart traveled extensively in northern Mexico and southwestern United States, and made considerable linguistic collections among various tribes. Desiring to obtain a Seri vocabulary, he planned a visit to the tribal territory; but on reaching Caborca in March he was met by the information that the Seri were on the warpath, and had recently devastated a hacienda on their frontier and slain more than a dozen white settlers.[5] Thence he repaired

[1] Publication No. 56, U. S. Hydrographic Office, Bureau of Navigation. The West Coast of Mexico, from the Boundary Line between the United States and Mexico to Cape Corrientes, including the Gulf of California (revised edition), 1889, p. 148.

[2] Ibid., pl. xv, p. 198 (one of these illustrations is reproduced in figure 26).

[3] The negatives of these pictures were retained by Mr Von Bayer, and have been kindly turned over to the Bureau of American Ethnology. Unfortunately the archery negative had been shattered, but enough of the fragments were preserved to show all essential details and to afford a basis for the drawing reproduced in plate xxix.

[4] The imposing official map of 1889, titled Carta General de la Republica Mexicana, formada en el Ministerio de Fomento con los datos mas recientes, por disposicion del Secretario del Ramo, General Carlos Pacheco, engraved and printed by Erhard Hermanos, Paris, on a scale of about 32 miles to the inch, represents Rio Bavispe as about the right length and with its course in about the right location, but as running at almost exactly right angles to its actual course; and it contains divers other equally startling errors.

[5] Recorded by Gatschet, Zeitschrift für Ethnologie, Berlin, Band xv, 1883, p. 186. The location of the hacienda was not specified, but there are local traditions of Seri raids about that time, both at Hacienda Seris (between Caborca and Libertad anthracite) and at Bacuachito.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

ripening); most of the larger muscles were already gnawed away, leaving loose ends of fiber and strings of tendon clinging to the bone, the condition being such that the remaining flesh might easily have been cut and scraped away by means of a knife; yet whenever a warrior or woman or youth hungered he or she took down the heavy joint, squatted or sat on the ground with back to one side of the doorway, held the mass at the height of the mouth, and gnawed, sucked, and swallowed, frequently tearing the tissue by twisting and backward jerks of the head, and not only masticating, but swallowing the free ends of tendons still attached to the bone. This process was varied only by seizing with the hands and tearing off a strip of flesh or skin already loosened by the teeth; and it was continued until the bones were practically clean, when they were wrenched apart by the stronger men in order that the cartilaginous cushions and epiphyses might be gnawed away. The only approach to cooking or carving was a parboiling of the foot, after the leg was wrenched off at the hock, until the hoof was sufficiently softened to be knocked off with the protolithic hupf[1] shown in plate XLIII, when half a dozen matrons and well-grown maidens gathered about to gnaw the gelatinous tissue (already softened by incipient decay as well as by the parboiling) investing the coffin bone. The entire procedure in this as in many other cases proclaimed the absence of knife-sense. The Caucasian huntsman does not have to think of his knife when game is to be bled or skinned or dissected; his habit-trained hand knows where to find the implement, how to seize it, and in most cases how to wield it advantageously; but the Seri hand possesses no such cunning, and uses the knife only clumsily and at second thought, if at all. The Seri huntsman, on the other hand, does not have to think of nails and teeth, for they are trained and coordinated by hereditary habit to spontaneously act in unison and with the utmost possible or needful vigor; while the Caucasian at least has completely lost the claw-and-teeth instinct of offense and defense.

Conformably with their striking independence of knives, the Seri are conspicuously unskilful in all mechanical operations involving the use of tools. Their most elaborate manufacture is the balsa, made from reeds broken at the butts and with the leaves and tops removed by the hands or by fire, bound together with hand-made cords; next in elaborateness come the bow and arrow, normally made without cutting tools; then follows their fictile ware, which is made wholly by hand, without aid of the simple molds and paddles and other devices used by neighboring tribes; while their primitive fabrics were apparently of hand-extracted fibers, twisted and woven wholly by hand, with the aid of wood or bone perforators in sewing and possibly in weaving. Practically the Seri possess but a single tool, and this is applied to a peculiarly wide variety of purposes—it is the originally natural cobble used for crushing bones and severing tendons, for grinding seeds and

[1] Defined passim, p. 188.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

Naturally the conditions at Costa Rica were unfavorable to the study of native ideas concerning apparel. The women and some of the children were arrayed chiefly in cast-off habiliments of the rancheras or in nondescript raga, while the men either aped Mexican fashions, like Maabém, or shamefacedly sweltered under the unaccustomed burden of tatterdemalion gear; yet there was a meaningful absence of that desire for finery so prominent among primitive peoples—a fact quite as eloquent in itself as the absence of bracelets and bangles, tassels and trappings. It is probable that the shamans and mystery-hedged crones in the depths of Seriland enhance their influence by the aid of symbolic paraphernalia (indeed, some inkling of such customs is found in the meager records of earlier visitors);[1] yet the conspicuous feature of Seri costumery is the dearth of decorative devices.

FIG. 13.—Necklace of wooden beads.

The habitations of the tribe are the simplest of jacales—mere bowers, affording partial protection from sun and wind, but not designed to shed rain or bar cold. Half a dozen of these were examined at Costa Rica in 1894 and probably a hundred more, in various stages of habitability, in Seriland proper in 1895, yet not the slightest trace of decoration was observed—the structures are plainly and barrenly utilitarian in every feature. The same may be said of the balsas in which the Seri navigate their stormy waters; for the peculiarly graceful curves of the craft evidently stand for nothing more than the mechanical solution of a complex problem in balanced forces, wrought out through the experience of generations, while the simple reed bundles are absolutely devoid of paint, of superfluous cord, of fetishistic appendages or markings, of tritons, nereids, or other votive symbols at bow or stern, and of industrially superfluous features or attachments in general—indeed, the only appendages discovered were one or two simple wooden marlinspikes (shown in figure 26), thrust among the reeds to be at hand in case of need for repairs.

Among the utensils employed in the primitive householdry of the Seri the most conspicuous and at the same time the most essential is the olla, or water-jar. Its technical features are described elsewhere; but it may here be noted that the olla is the central artifact about which the very

[1] Hardy noted the use of "a small leathern bag, painted and otherwise ornamented", as a medicine rattle (Travels, p. 342), and also described a wind-symbol and an effigy used for thaumaturgic purposes (ibid., pp. 294, 295).

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

the turtle is either drowned or driven ashore, or else lifted on the craft.[1] Immediately on landing the quarry, the plastron is broken loose by blows of the hupf[2] and torn off by vigorous wrenches of the warriors and their strong-taloned spouses in the impetuous fury of a fierce blood-craze like that of carniverous beasts; the blood and entrails and all soft parts are at once devoured, and the firmer flesh follows at a rate depending on the antecedent hunger, both men and women crushing integument and tendon and bone with the hupf, tearing other tissues with teeth and nails, mouthing shreds from the shells, and gorging the whole ravenously if well ahungered, but stopping to singe and smoke or even half roast the larger pieces if nearer satiety. If the quarry is too large for immediate consumption and not too far from a rancheria the remnants (including head and flippers and shells) are hoisted to the top of the jacal immediately over the open end—the conventional Seri larder—to soften in the sun for hours or days; and on these tough and gamey tidbits the home-stayers, especially the youths, chew luxuriously whenever other occupations fail. In times of plenty, such sun-ripened fragments of reeking feasts are rather generally appropriated first to the children and afterward to the coyote-dogs; and it is a favorite pastime of the toddlers to gather about an inverted carapace on hands and knees, crowding their heads into its noisome depths, displacing the rare scavenger beetles and blowflies of this arid province, mumbling at the cartilaginous processes, and sucking and swallowing again and again the tendonous strings from the muscular attachments, until, overcome by fulness and rank effluvia, they fall asleep with their heads in the trough—to be stealthily nudged aside by the cringing curs attached to the rancheria. Com-

[1] A lively and explicit account of Seri turtle-fishing appears in Hardy's Travels in the Interior of Mexico, 1829, pp. 396-397: "Bruja's bay is of considerable extent, and there are from five to three fathoms water close to Arnold's island, in the neighborhood of which the Indians catch abundance of turtle in a singular manner. I have already described their canoes, which in Spanish are called 'balsas'. An Indian paddles himself from the shore on one of these by means of a long, slender pole of about 12 or 14 feet in length, the wood of which is the root of a thirty [illegible], growing near the coast; and although the branches of this tree are extremely brittle, the underground roots are as pliable as whalebone and nearly as dark in color. At one end of this pole there is a hole an inch deep, into which is inserted another bit of wood, in shape like an oar, having a square bit of iron 4 inches long fastened to it, the other end of the iron being pointed. Both the bolt and oar are first moistened and then tightly inserted one within the other. Fastened to the iron is a cord of very considerable length, which is brought up along the pole, and both are held in the left hand of the Indian. So securely is the nail thus fixed in the pole that although the latter is used as a paddle it does not fall out.

"A turtle is a very lethargic animal, and may frequently be surprised in its watery slumbers. The balsa is placed nearly perpendicularly over one of these unsuspecting sleepers, when the fisherman, softly sliding the pole through the water in the direction of the animal till within a foot or two of it, he suddenly plunges the iron into its back. No sooner does the creature feel itself wounded than it swims hastily forward and endeavors to liberate itself. The slightest motion of the turtle displaces the iron point from the long pole, which would otherwise be inevitably broken and the turtle would as certainly be lost; but in the manner here described it is held by the cord fastened on to the iron which has penetrated its back till, after it has sufficiently exhausted its strength, it is hoisted on board the canoe by the fisherman, who proceeds to the shore in order to dispose of his prize."

[2] The universal stone implement of the Seri, imported from a subjacent and used in nearly every industrial occupation (see pages, p. 220); the designation is mimetic, or onomatopoetic, from the sound of the stroke, particularly on animal tissues.

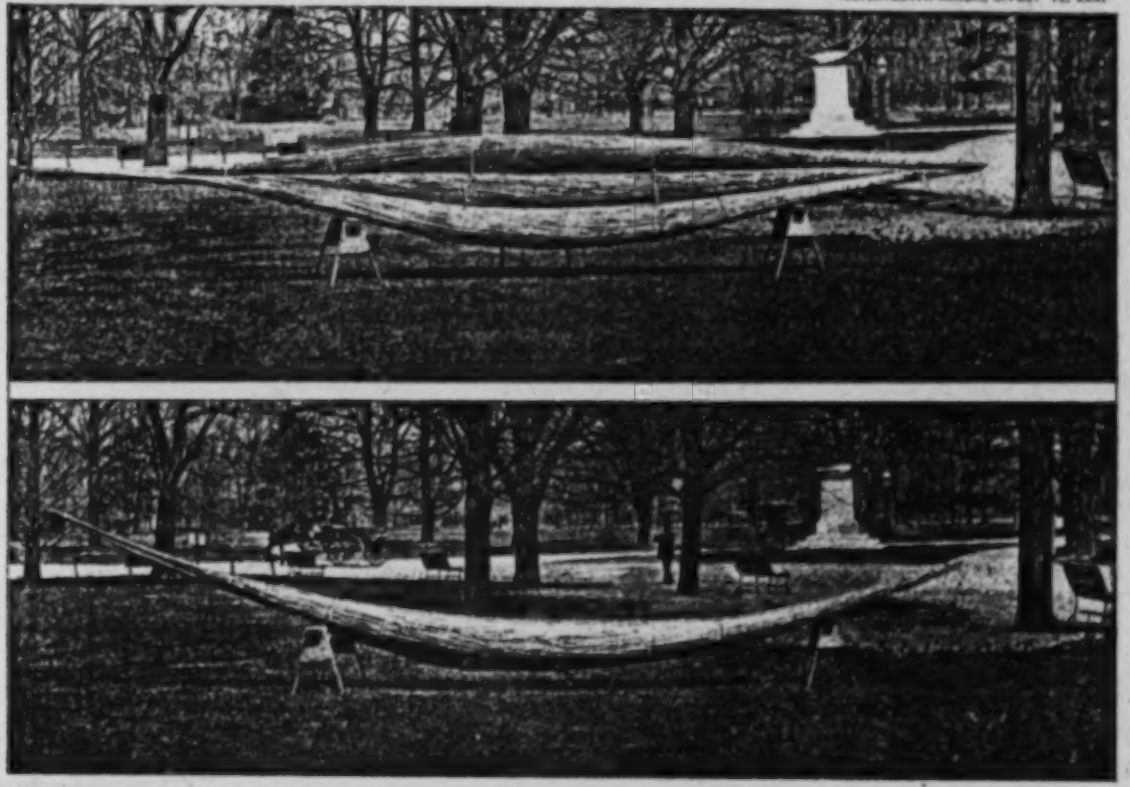
1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

131 especially as they are reflected in the primitive minds of the local tribe; and careful study of the habits and history of the Seri shows that the dangerous strait has been a potent factor in preserving tribal existence and perpetuating tribal integrity. Naturally the factor operates through
502 navigation; for it is by means of this art that the tribesmen are able to
609 avoid or to repel the rare invaders of either mainland or insular portions of their province, the overland pioneers from the east being stopped by the strait and the maritime explorers from south and west being unable to maintain themselves long about the stormy shores and never outfitted for pushing far toward the mainland retreats and strongholds; while by means of their light and simple craft the Seri were able to retreat or to advance across the strait as readily as over the adjacent lands to which they were wonted by the experience of generations. In their minds, indeed, El Infiernillo is the nucleus of their province. So the Seri were among the lowliest learners of that lesson of highest statecraft, that lands are not divided but united by intervening sea; and their ill-formulated and provincial notions are of much significance in their bearing on autochthonous habits and habitats.

501 The water craft of which the Seri make so good use is a balsa, made of three bundles of carrizal or cane lashed together alongside, measuring barely 4 feet abeam, 1½ feet in depth, and some 30 feet in length over all. A fine specimen (except for a slight injury at one end) is shown in plan and profile in plate XXXI. It was obtained near Boca Infierno in 1895, partly towed and partly paddled thence to Embarcadero Andrade, wagoned laboriously across Desierto Encinas and on to Hermosillo, conveyed in an iron-sheathed box on two gondolas of the narrow-gage Ferrocarril de Sonora to the international frontier, and finally freighted to the United States National Museum, where (in the Mall just outside the building) the photographs reproduced in the plate were taken.

396 The manufacture of the balsa has never been seen by Caucasian eyes, but the processes are safely inferred from the structure, whose testimony is corroborated in part by Mashém's imperfect descriptions. The first step is the gathering of the carrizal from one of the patches growing about the three or four permanent fresh waters of Seriland, the canes being carefully selected for straightness, symmetry, and uniformity in size; these are then denuded of leaves and tassels, tied in bundles of convenient size (one seen on Tiburon contained 40 or 50 canes), and carried to the shore. In actual construction the canes are laid butt to butt, but overlapping 2 or 3 feet, the overlap being shifted this way and that with successive additions, so that the aggregate length of overlapping in the bundle reaches 10 or 12 feet—i. e., the full length of the body of the finished craft. The growing bundle is wrapped from time to time with lashings of mesquite root or magney fiber, and kept in cylindrical form by constant rolling and by means of the lashing; though the cord used for the purpose is so slender as to do little more than serve the purpose

501



SERI BALSA IN THE NATIONAL MUSEUM

J. McGee E-5 (1894-1895)1896 NU31 Ser1 NU31

[FACING P. 217]

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

of manufacture (only stray shreds of the interior cording could be found in an old and abandoned balsa on Punta Antigualla). As the bundle approaches the requisite size, the building process changes; the butts of the successively added stalks are thrust obliquely into the interstices extending beyond the butts of earlier-used canes, and the stems are slightly bent to bring them into parallelism with their fellows; and this interweaving process is continued with increasing care until, when the bundle is completed, there are no visible butts (all being pushed into the interior of the bundle), while the only visible tips are those projecting to form the tapering extremities. The finished bundle is then secured by a spiral winding of slender cord. Two other bundles are next made, the three being entirely similar, so far as is known; then the three are joined by a lashing of slender cord like that used for the separate bundles, which is twined alternately above and below the central bundle in such manner as to hold the three in an approximate plane save toward the extremities, where the lashing is much firmer and the tapering tips of the bundles are brought into a triangular position, i. e., the position of smallest compass. The cordage is of either mesquite root or maguey fiber, the former being the more common, so far as observed (doubtless by reason of the dearth of the latter plant); it is notably uniform in twist and size, though surprisingly slender for the purpose, barely three-sixteenths of an inch, or 5 mm., in diameter, and limited in quantity.[1] The only tools or implements used in the manufacture (and repair), so far as is known, are light wooden marlinspikes, two of which are illustrated in figure 26; these are used in working the cane-butts into the bundles. In collecting the canes the tassels are broken off and the leaves stripped by the unaided hands, while the stalks are broken off usually below the secondary roots in the downward taper, and the rootlets and loose ends are removed either with the hands or by fire.

The finished balsa is notably light and buoyant. The Boca Infierno specimen was estimated to weigh about 250 pounds (113 kilograms) when thoroughly dry, and little more than 300 pounds (136 kilograms)

FIG. 26.—Seri marlinspikes.

[1] Only the finer cording shown in plate XXXI is original, the coarser ropes having been added to facilitate handling.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

501 when completely wet; so that it could easily be picked up by three or four, or even by two, strong men and carried ashore to be hidden in the fog-shrubbery skirting the coast. The craft floated high with one man aboard, rode better with two, carried three without much difficulty even in a fairly heavy sea, and would safely bear four adults aggregating 600 pounds (272 kilograms) in moderate water. The most striking features of the craft afloat are its graceful movement and its perfect adaptation to variable seas and loads. The lines are symmetric and of great delicacy, as indicated even by the photographs out of its element; the reed-bundles are yielding, partly by resilience and partly in the way of set, so that the body of the craft curves to fit the weight and distribution of the load and to meet the impact of swells and breakers. In smooth water a lightly laden balsa may appear heavy and logy, but with a heavier load and stronger sea each tapering end rises strongly and then recurves slightly in a Hogarthian line graceful as the neck of a swan, while the whole craft skims the waves or glides sinuously over their

FIG. 27—The balsa afloat.

crests in a lightsome way, recalling the easy movement of gull or petrel. A suggestion of its effect is shown in figure 27, a composite drawn largely from photographs; another suggestion is shown in figure 28, reproduced in facsimile from a drawing by the artist of the U. S. S. *Narragansett* in 1873,[1] the only known picture of the craft antecedent to the 1895 expedition.

Almost equally striking features of the balsa are its efficiency and safety under the severe local conditions. Carrying twice its weight of (chiefly) living freight, it breasts gales and rides breakers and stems tideripe that would crush a canoe, swamp a skiff, or capsize a yawl; while if caught in currents or surf and cast ashore it is seldom wrecked, but drops lightly on beach or rocks, to be pushed uninjured by the broken wave-tips beyond the reach of pounding rollers, even if it is not at once caught up by its passengers and carried to complete safety. The strength of the craft is amazing, especially in view of the slender-

[1] Publication No. 56, U. S. Hydrographic Office, Bureau of Navigation, 1877, plate xv, p. 136.

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

ness of the cords used in construction; in fact, the outer layers of canes are so ingeniously interlocked by the insertion of their butts into interstices that each bundle holds itself together with slight aid from the exterior cording, while even the bundles themselves are held in proper relative position by the secure terminal tying rather than by the intertwined cording of the body of the craft. And the entire construction exemplifies the compartment principle to perfection; a slight injury may affect but a single joint of one out of several thousand canes, while even a severe fall on sharp rocks seldom injures more than a few score canes, and these in a few joints only. The most objectionable feature of the balsa lies in the fact that it affords little protection from the wet. The water rises freely through the reed bundles to a height depending on the load, and not only the spray but the whitecaps and combers as well dash freely over the unprotected body of the craft; but this defect is of little consequence to the hardy and nearly nude navigators, or to their scanty and practically uninjurable freight. 501

FIG. 28—Seri balsa as seen by Narragansett party.

The gracefulness and efficiency of the balsa itself stand in strong contrast with the crude methods of propulsion. According to Mashém, the craft is commonly propelled by either one or two women lying prone on the reeds and paddling either with bare hands or with large shells held in the hands; according to Hardy, the harpoon main shaft is used by turtle fishermen for paddling (and probably for poling, also); according to the Dewey picture (figure 28), the vessel is driven by a woman with a double-end paddle like that used in connection with the conventional canoe; while the expedition of 1895 found on Isla Tiburon four or five paddles rudely wrought from flotsam boards and barrel-staves, and partly hafted with rough sticks 3 or 4 feet long, but partly without handles and evidently designed to be grasped directly, like the shells of Mashém's descriptions. No trace of oars, rowlocks, sculls, rudders, or masts were found, and there is nothing to indicate the faintest notion of sails and sailing. On the whole there is no trace of well differentiated propelling devices—i. e., the craft is perfected only as a static device and not at all as a dynamic mechanism. 502 [462]

1: McGee E-5 (1894-1895)1898 NU31 Seri NU31

22 Despite their poverty in propelling devices, the Seri navigate their
502 waters successfully and extensively. Perhaps the commonest function of the craft is that exercised in connection with the turtle fishery, though its chief office as a factor of general industrial economy is that of bridging El Infiernillo at the will of the roving clans. It is by means of this craft, also, that the semiceremonial pelican feasts on Tiburon are consummated; it is by the same means that Isla Patos, Isla Turner, Roca Foca, and other insulated sources of food-supply are habitually reached; and both Mashém's accounts and the Jesuits' records indicate that occasional voyages are pushed to San Esteban, San Lorenzo, Angel de la Guarda, and even to the Baja California coast.

Concordantly with the tribal customs, little freight is carried. The traveling family transport their poor possessions to the shore, bring out the balsa from its hiding place in the thick and thorny fog-shrubbery, launch it, lade it with a filled olla and the weapons of a man and implements of a woman, besides any chance food and clothing, and embark lightly to enjoy the semirepose of drifting before the breeze—until the rising gale brings labor still more arduous than that of scouring the spall-strewn slopes or sandy stretches of their hard motherland. Commonly the terminus of the trip is fixed largely by the chance of wind and tide; and when it is reached the party carry the craft inshore, conceal it shrewdly, and then take up their birdskin bed and walk forth in search of fresh water and meat. The successful fishing trips of course end in orgies of gorging, and when the voyage is the climax of a foray to the mainland frontier for stock-stealing, the quarters and paunches and heads hastily thrown aboard at the mainland side of the strait are carried to the rancherias for consumption at leisure; and this has happened so often that equine hoofs and bovine bones are common constituents of the middens on Tiburon.

171 Although measurably similar to Central American and South Amer-
501 ican types of water-craft, the Seri balsa is a notably distinct type for its region. The California natives, as well as those of the mainland of Mexico south of Rio Yaqui, used rafts made either of palm trunks or of other logs lashed alongside rather than balsas; while the far-traveling tribes used either sails or well-differentiated paddles for propulsion.

501 Briefly, the Seri balsa is remarkable for perfect adaptation to those needs of its makers shaped by their distinctive environment. It seems to approach the ideal of industrial economy—the acme of practicality—in the adjustment of materials and forces to the ends of a lowly culture; and, like the olla and harpoon and arrow, it affords an impressive example of the adjustment of artifacts to environment through the intervention of budding intelligence. Yet the chief significance of the craft would seem to reside in its vestigial character as a survival of that orarian stage in the course of human development

I: McGee E-5 (1894-1895)1898 NU31 Seri NU31

in which men lived alongshore and adjusted themselves to maritime conditions rather than to terrestrial environments; a stage evidently but barely passed by the Seri, since they still subsist mainly on sea food, still retain their suggestive navigation, and still view their stormy straits and bays as the nucleus and noblest portion of their province. 501

HABITATIONS

Among the Seri, as among primitive folk generally, the habitation reflects local conditions, especially climate and building materials. Now, Seriland is a subtropical yet arid tract, where rain rarely falls, frost seldom forms, and snow is known only as a fleeting mantle on generally distant mountains, so that there is little need for protection from cold and wet; at the same time the district is too desert to yield serviceable building material other than rock, which the lowly folk have not learned to manipulate. Moreover, the tribesmen and their families are perpetual fugitives (their movements being too erratic and aimless to put them in the class of nomads); they are too accustomed to wandering and too unaccustomed to long resting at particular spots to have a home-sense, save for their motherland as a whole; and, just as they rely on their own physical hardihood for preservation against the elements, so they depend on their combined fleetness and prowess for preservation against enemies. Accordingly, the Seri habitation is not a permanent abode, still less a domicile for weaklings or a shrine for household lares and penates, not at all a castle of proprietary sanctity, and least of all a home; it is rather a time-serving lair than a house in ordinary meaning. 182 342

Despite the poverty of the material and the squalor of the structure, certain features of the Seri jacal are notably uniform and conventional. In size and form it recalls the passing "prairie schooner", or covered wagon; it is some 10 or 12 feet long, half as wide measured on the ground, and about 4½ feet high, with one end (the front) open to the full width and height, and the other nearly or quite closed. The conventional structural features comprise the upright bows and horizontal tie-sticks forming the framework. The bows are made of okatilla stems (*Fouquiera splendens*) roughly denuded of their thorns; each is formed by thrusting the butts of two such stems (or more if they are slender) into the ground at the requisite distance apart, bending the tops together into an overlap of a yard or two, and securing them partly by intertwisting, partly by any convenient lashing; and about five or six such bows suffice for a jacal (the appearance of the bows is fairly represented by the ruin shown in plate VII). Next come the tie-sticks, which consist of any convenient material (okatilla stems, cane-stalks, palobianco branches, mesquite roots, saguaro ribs, etc.), and are lashed to the butts by means of withes, splints, or fiber wisps, at a height of some 4 feet above the ground, or about where the walls merge into the roof. With the placing of these sticks the conventional part 342

2: Kroeber E-5 (1930)1931 NU31 Seri NU31

114 The Seri "second harvest" of cactus seeds (p. 209), which Bae-
262 gert and Clavigero also describe from Lower California (p. 211) is
found also among the American Pima,[4] and is therefore likely to
171 have prevailed as far as Cereus fruits were a principal food supply.
514 The ground-squirrel is not eaten by the Seri, the badger not by the Baja Californiefios (p. 212).

McGee gives a valuable percentage estimate of Seri food composition: land game, large and small (including 6% of stolen stock), 21%; pelicans, other waterfowl, and eggs, 13; sea turtles, 25; fish, 15; shellfish, 10; cactus fruit, 9; other plants, 6; miscellaneous, 2; total animal, 84; maritime, nearly two-thirds. My impression is that clams, other mollusks, and crabs constitute more than a tenth of the total consumption. Clams especially can usually be obtained at low tide when wind and water prevent other food taking. I should also be inclined to raise the proportion of plant food, especially mesquite. The use of agave was almost certainly limited chiefly by the supply. Sealions, porpoises, and occasional whales could perhaps hardly be accounted for under the two percent of miscellaneous. On the other hand, deer are evidently taken only occasionally, and the figure for turtles seems too high, these animals being absent from Seri waters for months in the year and always free-swimming. McGee appears to have over-emphasized the importance of the turtle in Seri thought as well as life. I would incline to estimate the proportion of animal food in native times, before domestic animals could be preyed on, as rather under three-fourths of the total; of maritime, as perhaps three-fifths. Even these figures might be high for the bands primarily resident on the mainland, with free access to the mesquite thickets of the lower Sonora and Bacuachi (Bacavachi) courses, and the countless cactuses.

114 A double-bladed paddle pictured by the Dewey-Narragansett
171 expedition of 1873 is reproduced by McGee (p. 219, fig. 28) without
501 comment. This type of paddle is established for the Seri, Santa Barbara islanders, and San Francisco Bay Indians; then apparently is lacking until the Eskimo-Aleutian area. Among the Chumash it is native and associated with a plank-built canoe. On San Francisco Bay it was used with the rush balsa, and may or may not be due to Aleutian sea-otter hunters introduced by the Russians. It seems possible that the Seri and Chumash occurrences would prove connected by occasional use in Baja California, if we had fuller data, since some of the natives there went several leagues out into the open sea. We are so accustomed to think of the two-bladed paddle as an adjunct of the specialized kayak, that it too impresses as a complicated device, inappropriate with a simple raft. As a matter of fact, wherever scarcity of wood, or lack of skill and usage in working it,[5] resulted

[4] Russell, BAE-R 26:71, 1908.
[5] Cf. The Valley Nisenan, UC-PAAE, 24:288-290, 1929.

2: Kroeber E-5 (1930) 1931 NU31 Seri NU31

in a paddle blade being cut separately from the shaft, the inventive step from attaching one blade to attaching two blades would have been insignificant—in fact, would be an improvement or variation rather than an invention. The determining factor as to its adoption would probably be the type of navigation as set by water conditions. This is borne out by the distribution of the double paddle, which clings to areas of open salt-water navigation or large bays approximating open water conditions. On rivers and lakes the double paddle would rarely help and often be in the way. In this way the varying association with skin boat, wooden boat, and raft boat seems accounted for. Another factor must be size of the vessel navigated. A broad or high canoe would scarcely allow of alternate paddling on both sides. This may be the cause of the absence of the implement on the Northwest Coast. Whether the Arctic and the California-Seri occurrences are to be historically connected, must probably be left an open question for the present. An answer in favor of connection will evidently depend on the establishment of sufficient other connections to set up a favorable presumption. Until then, the considerations just mentioned make the possibility of independent origin equally plausible.

The single-bladed paddles seen by McGee (p. 219) and myself were two-piece and hafted with nails. McGee is more interested in balsa propulsion by recumbent women with hands, shells, or unhandled blades. That such crude devices were used along shore or in bays often enough to be mentioned, is wholly in line with the conspicuous Seri indifference, slovenliness, and lack of standards; but it is also obvious that real paddles being known and made, these would be the ones taken on open sea voyages of a dozen miles in a region of notably variable winds and currents. The Seri are never fools in practical matters within their compass; and they could not have acquired their indubitable navigating skill by letting their women do most of their paddling with bare hands. The one woman I saw aboard was carried as a passenger across the Infiernillo.

What is typical of Seri habits is that the harpoon shaft is also used for poling, and the harpoon cord as anchor rope, tow-line along shore, sheet rope, and for tying a blanket to a mast and pole to serve as sail; just as the bailer of a leaky skiff is an enamel-ware plate or pot employed at other times for food. The whole harpoon, including the rod-iron point, but dismounted, seems regularly to be taken along on a transport voyage.

The Seri houses I saw opposite Punta San Miguel were like those described by McGee (pp. 221-223): long, narrow, low, and open at least at one end; but they were unroofed. There was also one of double length, and another "joined obliquely"—that is, annexes occupied by younger kin and their families. The lengthwise double house was open through, though constricted at both ends and the

2: Kroeber E-5 (1930) 1931 NU31 Seri NU31

ing, because it would be swamped in a sea which it could resist. The joining and calking are always carried far enough that the boat can be bailed faster than it leaks. That the Seri prefer to bail rather than to finick over joints, is a matter of preference. Most of our real frontier life runs on much the same plan, though sprung from a tradition of intrinsic standard and provided with a superior tool equipment. Tribes like the Walapai and Papago, who live in nearly the same desert, show much of the Seri combination of technological crudeness and effectiveness. They do make an exception in basketry, which is what has chiefly reached our museum cases from their culture; but the Davis-Heye collection shows that the Seri too can make baskets of unsuspected quality. My impression, based on the way the Seri handle their knives, boats, bows, and the like, is that they have excellent practical mechanical sense, but that their standards are astonishingly different from our own. Most people that depended so much on sailing their boats as the modern Seri do, would not be content with two sticks, a blanket, and a harpoon line. But, given the willingness to operate with this equipment, very few would be as successful in quickly rigging and skilfully handling the sail. And sailing is something the Seri have recently learned or evolved. They are the frontiersmen of native culture: hardy, rude, unorganized, practical, efficient; but, like our own frontiersmen, in no sense only half-emerged from the tool-less animal. McGee was so inspired by the desire to find ultimate "primitiveness" among the Seri that he often ignored the tremendous effect of their habitat which he so well observed and described. After all, in his day cultural evolutionism was still in vogue.

As to race sense, McGee seems partly but only partly right. Chico Romero of his own accord asked me if other Indians had venereal diseases, and on the return question replied that the Seri were entirely free from them. I also saw and heard of no half-breeds. On the other hand, Chico's historical tradition told of the violation and keeping of captive Tepoca women, and since his own son was descended from one of them, in the second generation, Chico's mother-in-law must have been a Tepoca. McGee's "alien conjugal union" as the "blackest crime" (p. 11) is therefore an exaggeration, and his informant's statement that a Papago woman captive among the Seri never could have had children because she was an alien slave (p. 278), must rest upon a misunderstanding.

The groom's continence for a year after marriage as a moral test before admission to full husbandly status (pp. 280-3), is probably a matriarchally colored fantasy based on another misunderstanding. As already mentioned, Chico was interested, but mildly ribaldly amused, at the idea when it was put before him as a foreign Indian custom. He reacted like the average white man under the circumstances, not in the least like an actor skilfully feigning ignorance.

105 groups or clans between the waterholes and their temporary dwellings by the sea, chasing for game or searching for cactus fruits, sleeping wherever weariness overtook them, or where the successful end of a hunt left them gorged and drowsy. Under a climate where frost is almost unknown they needed no protection except from the sun, and built no other dwellings than their brush-heap jacals (Fig. 3). Living in animal-like savagery, without commerce or industry, the Seri's every bodily character and function were directed toward the provision, day by day, of the food and water necessary for life.

312 Potable water, a commodity so abundant in most regions as to divert conscious attention from its paramount role in physiologic function and in industrial economy, attained in Seriland the primary place of importance because of its rarity. In that arid land it is scanty to the extreme. Two thirds of the meager supply is confined to a single rivulet in the interior of Tiburon Island (Fig. 4). Because of this and other widely separated aguajes within the island whose shores provided the greater part of their food resources, the Seris early found this island the most tolerable habitat in their desolate realm.

225 The most conspicuous single article in the dietary of the Seri, and undoubtedly that [262] which first determined the location of his habitat, is the green sea turtle which is abundant throughout the Gulf of California, but particularly so in the narrow channel between Tiburon Island and the mainland. There the shallow lagoons abound with its marine grass food plant, and the sandy beaches provide optimum conditions for egg laying and hatching. In consequence of this natural provision for abundant food, easily obtained, perhaps half the aggregate life of the Seri tribe came to be spent within easy reach of the feeding and breeding grounds of the turtle.

[361] The most extensive and permanent of all Seri communities was established on the channel side of the island, just back of the lagoon in which the turtles feed and whose sands provided eggs and the succulent flesh 225 of newly-hatched turtle young. When fe- 501 males could not be captured at the laying grounds, the big chelonians were speared

[p. 194(B)]

[text continues on p 195(B)]

3:Davis & Dawson E-5 (1922-1940) 1945
NU31 Seri NU31

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from graceful balsas made of carrizo canes bound together with mesquite fiber cords (Fig. 5). On these buoyant craft, too, they navigated freely the narrow but stormy

[p. 195(B)]

3:Davis & Dawson E-5 (1922-1940) 1945
NU31 Serl NU31

225 channel separating their island habitations
501 from those on the mainland.

In pre-Columbian times the turtle fisheries
614 of the channel must have supported several

[p. 195(c)]

3: Davis & Dawson E-5 (1922-1940)1945 NU31 Seri NU31

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FIG. 5. THE NATIVE BALSA MADE OF CARRIZO REEDS

PHOTOGRAPHED IN 1922. THIS WAS THE LAST BALSA MADE BY THE SERIS. IT IS ONE OF THE SMALLER ONE-MAN BALSAS FROM WHICH TURTLES WERE SPEARED WITH THE LONG-SHAFTED IMPLEMENT PICTURED HERE.

[p. 196(c)]

Class	Species Reported	Species Exploited	Percentages
Mammals	21	2	2
Birds	28	6	5
Reptiles and Amphibians	25	11	10
Fish	45	23	20
Molluscs	36	21	18
Crustaceans	10	2	2
Total:	160	72	45

These figures show clearly the dependence of the Seris on marine life for a major source of their diet. Today, pinta, baya, cubera and sardinera are their primary source of income with mant and sea-turtles ranking second in importance. Several species of clams, limpets and gastropods supplement this diet.

All other animals represent only incidental additions to the menu. During the last war, sharks and mantas were hunted extensively for their liver, then a source of vitamin D. But since the war, the demand for shark liver has declined and because of this, a considerable income for the Seris has been lost. Shark and manta fishing have been abandoned for these fish were taken only for the commercially profitable liver and not for their flesh.

Fishing and Hunting

Seri fishing techniques are simple. In the past they used double-pronged spears and for the larger fish, harpoons. Today the spears are employed chiefly in fishing while the harpoons are reserved exclusively for sea-turtles. Hook and line fishing was introduced after 1930, as Kroeber (1931) saw none during his visit to Kino in 1930, and it is now the standard method of fishing. An abortive and unsuccessful attempt was made several years ago with net fishing. Another change has occurred within the past fifty years. The old balsas have been replaced by flat-bottomed plank boats outfitted with five-horsepower motors or sails. These motors, incidentally, are leased from the Mexican fish traders because none of the Seris are rich enough to own one.

Bait is obtained by dynamiting schools of small fish in coastal waters or by collecting them at low tide in the tidal pools and from under rocks. Fishing usually begins at dawn and lasts until noon when, as a rule, all of the "pangas", as the boats are called, return to Desemboque. In stormy weather no fishing expeditions are made and when this occurs, starvation becomes a real menace. Harpooning of sea-turtles takes place far out in the Gulf. It is done only at night in exceptionally calm weather by the light of torches or Coleman lanterns.

Hunting as it is done today has changed from the time of McGee's visit in 1894-95. The bow and arrow has disappeared completely except for a crude and diminutive form used as a toy by small boys. Iron spears once used in shark and manta hunting are now carried primarily as a weapon against the numerous and much feared rattlesnakes. They are said to be used occasionally in the peccary hunt. Old .22s or 30/30 rifles are owned by several of the men, some of whom specialize in hunting.

5:Dawson N-5 (1940) 1944 NU31 Seri NU31

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A rare photograph of the last native carrizal reed balsa made by the Seris in 1922. Tiburon Island.

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

McGee (1898:214)

estimated that maritime resources provided two-thirds of the Seri diet. Kroeber (1931: 20), approximately 30 years later, estimated the proportion at about three-fifths. In the winter of 1960, 30 years after Kroeber's visit, the Seri were obtaining at least three-fifths of their food from the sea.

In pursuit of their main source of subsistence, the Seri travel up and down the narrow coastal band. In the winter of 1960 they were occupying one temporary camp toward the southern end of the band and a permanent camp at the northern extreme. Seri women and children gather mollusks; fishing is a male occupation. In addition to gathering and fishing for their own needs, the Seri dispose of a portion of their catch on the commercial market. This enterprise began about 1930, and was encouraged by the establishment, in 1958, of the Sociedad Cooperative de Produccion Pesquera Seri with the cooperation of the Mexican government.

The Pacific green turtle constitutes the largest single item in the Seri diet for at least six months of the year—from January to June—and it is also caught occasionally at other seasons. In 1896 McGee estimated that it provided 25 per cent of the total food supply. Emphasizing the intimate ecological relationship between the Seri and the turtle, McGee (1898: 186-187) wrote:

> ... perhaps half of the aggregate life of the tribe is spent within easy reach of its [the turtle's] feeding and breeding grounds, and tribesman and turtle have entered into an inimical communality something like that of the Siouan Indian and buffalo in olden time. ...

Kroeber (1931: 20) believed that McGee stressed the Seri-turtle relationship too strongly and overestimated its contribution to the diet. McGee (1898: 187), in support of the importance of the turtle to the Seri, points to the fact that the turtle carapace is used for, among other things, a house covering and buckler, a cradle, a coffin, and footgear. The carapace is currently used for supporting and roofing houses and as a starvation food. The contribution of the turtle to the diet varies from year to year, but observations made in 1960 suggest a range of from 15 to 20 per cent as a reasonable estimate.

Seri men fish for turtle from boats, which are manned by two or three men and are propelled by oars, sails, outboard engines, or any combination of the three. The boats operate either individually or in groups. The men fish by night or day, depending on the weather and sea conditions. When they fish at night, they use a kerosene lamp to attract turtles to the surface. The principal implement is the harpoon.

The harpoon tackle of the Seri is illustrated in Figure 1. It consists of a foreshaft (c-h), a mainshaft (j-k), and an extension cord (i). The component parts of the foreshaft are a projectile point (c), a gasket (d), a wrapping cord (f), a hafting base (g), and a lead cord (e and h). In preparation for turtle fishing, the hafting base (g) is plugged into the socket (j) on the main shaft (k), and the extension cord (i) is looped through the lead cord (h).

8: Ascher E-5 (1960) 1962 NU31 Seri NU31

225 In fishing for turtle, one man stands at the bow of the boat, holding the mainshaft and extension cord in one hand. When he sights a turtle, he propels the mainshaft at the animal's carapace, retaining a firm grip on the mainshaft and the extension cord. If it is struck, the turtle lurches away, loosening the foreshaft and unplugging it from the mainshaft. Tired eventually by the tension [411] applied by the fisherman on the extension cord, the turtle is finally stunned by a wooden club and lifted into the boat.

225 There is evidence that the turtle-fishing complex has consider-175 able time depth and stability. The Seri were using similar apparatus and methods at least as early as 1825 (Hardy 1829: 296-297). At [501] this time they employed balsa boats rather than wooden boats with outboard motors and torches of cactus fibers instead of kerosene lamps. The complex continued, apparently with little change, through 1896 (McGee 1898: 187-193). Wooden boats and kerosene [177] lamps began to be adopted during the 1920s, and outboard motors were introduced in the 1940s.

411 During the entire period of 135 years (1825-1960), however, the harpoon tackle underwent only one important innovation. The 225 gasket on the foreshaft was introduced by a Seri Indian about the 176 year 1935. The addition of the gasket was related to, and coincided [439] in time with, the first attempts of the Seri to supply turtles to the commercial market. When they caught turtles solely for their own use, they did not need to keep the animals alive for very long, but when they began to sell them it became important to preserve them alive until they reached the market. The gasket acts like the hilt on a sword, preventing the entrance of the foreshaft hafting into the turtle's body. Through its contact with the carapace, it restricts the rotation of the point within the animal's body and provides a seal which inhibits the loss of blood, and thus prevents early death. After the turtle is stunned with a club and lifted into the boat, the foreshaft is removed and the hole which it made is stuffed with a piece of cloth.

124 Seri men were shown a harpoon foreshaft from a museum archive and asked what it was for and whether they themselves made similar 411 ones. If an informant acknowledged that he made them, he was asked, at the minimum, to detail the materials he used, the procedures he followed, and the approximate amount of time it would take him to produce one. Later he was requested to show the field worker examples of the foreshafts he had made. Of the approximately 40 adult Seri males, about 25 were available for questioning. Of these, approximately ten did not make foreshafts or had made them in the past but did so no longer; they were mainly older men and those [474] engaged in the administration of the Sociedad Cooperative de Pro-[887] duccion Pesquera Seri. Five men either would not or could not volunteer information. Data were obtained from the remaining ten adult men and from one eight-year-old boy; they include 21 foreshafts made by these eleven people.

411 The materials from which a foreshaft can be shaped and as-325 sembled vary within what is available in the Seri environment. Iron

226 411 177 commercial origin are their main instruments of fishing. To this they added dynamite, sometimes with disastrous results to themselves, mostly as a way of securing bait. Single-pointed fish-spears which loomed so importantly in McGee's account have gone the way of the Dodo for its original purpose and transformed into iron bar lances, now used largely as weapons against rattlesnakes that men encounter in their desert roamings. However, in the forties, when the Seris spent a great deal of time getting sharks and huge rays, they killed them with these weapons.

226 411 What retain some importance are the harpoon and the two-pronged spear called "puiero." The two-pronged spear is one of their oldest weapons. The construction is much the same as when McGee visited them. The spear is used mainly to stab large-size fish, the giant *bais* or *mero* for example, after it has been brought up on the line. The [225] harpoon is now exclusively a weapon for the turtle hunt.

226 177 [157] An interesting fate met an effort to teach these Indians net fishing in 1947. They tried, ruined the nets and never took it up since. The instigators were Mexicans, the fish traders. I suspect that Seri individualism had a great deal to do with their lack of interest in net fishing which after all demands a certain amount of cooperation. With the hook and line fishing, men can have much more their own way.

501 177 648 An added "tool" of the Seris is the plank boat. The balsa which McGee still observed during his visit, had already vanished by the time Kroeber came to the Seriland and had been replaced by these boats. The boats are flat bottomed but good sized. The material was provided by the Mexican government. Boats are usually propelled by 5 hp. motors leased from the Mexicans (no Seri is rich enough to purchase [439] one) who also sell them gasoline and oil at exorbitant prices and in return buy Seris' catch of fish and sea turtle for low prices. At the time of my visits these amounted roughly to less than a peso [435] per kilo of the flayed, degutted and cleaned fish (less than 8 cents) with fluctuation up and down the scale depending on the kind of the fish, and to about 30-50 pesos for medium to large size "cahuama," the live marine turtle.

501 648 The Seri boats are also propelled by paddles and sail—this is always the case with the families who wish to stay away on Tiburon for some time. The Mexicans will not lease them their motors for such trips even if the Seri, some of them at least, have enough knowledge of the motors to repair minor stoppages—a demonstration of the fallacy [114] of McGee's idea that they are genetically unable to handle tools. In this respect, Kroeber's (1930: 25) estimate of them is closer to the truth.

462 Sexual division of labor in procuring food goes on, much the same as it had 70 and 30 years ago, *with the sole exception of the imported goods.* [439] Here purchases are made either by men or women or by children, depending on who at the time has the cash and what one wishes to buy.

Fishing is still done by men and so is hunting. Women still concentrate on gathering, whether of

Malkin E-5 (1953-1956)1962 MU31 Seri MU31

262 them to their shelter and held them there for several days before they and their families finally ate them up. The turtles are also a well-liked item.

As already indicated in some instances there exists preference for a particular part of an animal. Of the Gila monster only the fat tail was said to have been eaten, and of both rattlers, the head and the tail are discarded on the grounds
* [325] that they contain toxin. Finally the toad and the gecko and *Xantusia* are all rejected as completely venomous.

178 262 It is also evident that changes in the Seri taste have occured in the course of the past several decades. Some animals are on their way out as food, and here we have the Gila monster, the whipcoach, the red racer and smaller lizards. In several cases, and this includes the Gila monster, the responses indicated that the animal had been eaten in the past. I also observed that on the sly, the Seris would eat them when other food was in short order. But they are reluctant to admit this and often altogether denied it.

Hunting

224 [225] Most reptiles are captured by hand or else killed with a stick, stone or pea-shooter. Except for the turtles, the Seris will not make special expeditions. But it is certain that if they find themselves on any of the islands near the shores of Baja California they will go ashore deliberately in search of the chuckawalla.

225 The turtles are another matter. Here now, just as in the past, special expeditions are made in order to get them. These expeditions take place
● [501] nowadays in the usual flat-bottomed plank boats, either motor or oar propelled. The hunt takes place only during unusually quiet and dark nights, when the Gulf is smooth and calm and there is neither wind nor ripple. With the slightest disturbance, [354] turtle fishing is impossible. It is all done with the [411] torch lights or Coleman lanterns. The principal and only weapon is the harpoon, identical with that described and illustrated by McGee. The turtles are then harpooned, dragged into the boat and either left alive, when the hunters have a sale of live ones in mind, or pounded to death with a [251] club or oar, quartered and then either consumed on the spot or else dried and salted.[1]

[224] [462] While the collecting of the smaller animals usually falls to the children or women, turtle hunting is men's job. Men, too, usually get the chuckawalla because they usually visit more distant islands.

Pets

231 None of the reptiles are pets in a real sense. Those few that might be kept are only held until the day when they are butchered and eaten. It is motivated more by the wish to preserve fresh food than by any affection for the animal. The turtles, the tortoises and the chuckawalla belong here. Occasionally a Seri boy will string a lizard, a *Scel-*

[1] The loggerhead is hunted in the daytime because, owing to its great strength, night hunt would be too dangerous. Two harpoons are always used on it, while for the smaller species, one harpoon usually suffices.

* 825 237 [322] quite possible but I couldn't substantiate the story from contemporary evidence. Perhaps during the height of the shark hunting for the liver oil, the Seris used the oil also for wood polish, although it isn't very clear just what sort of artifact they make would require such treatment. The wooden tools or artifacts among them are in short supply at all times. Finally, the huge horned manta was supposedly hunted also for its hide but just in what circumstances it was not explained. It is the only fish which the Seri ever mentioned as having been put to such use.

Fishing

226 As already mentioned, fishing nowadays is largely accompanied from flat-bottomed boats with hook and line. The old ways of getting fish by spearing are almost gone for good. Recently, an [177] attempt has been made to teach the Seris siene fishing, but 10 years of these endeavors accomplished only ruination of a number of expensive nets and of much fishing gear and the desertion [157] of the project by the Indians. It may be that their individualistic and almost anarchistic attitudes preclude cooperation, essential in this type of fishing.

The bait is obtained in any one of the three ways: by dynamiting fish in tide pools or along the shore, or by catching small fry with small hook and line, or finally by collecting small fishlets in the tide pools, prying them out from under rocks or simply—and here the Seri boys excel—by shooting them in the tide pools with tiny [857] toy arrows or simply spearing them with a stick. [177] The dynamiting is done with the purchased sticks of dynamite which the Seris obtain in the tiendas. The procedure is often risky and down right dangerous. Some of the Seris have blown themselves up with dynamite. I have seen one of them, who lost both arms and had a jaw broken during a dynamiting trial. He went about with a dirty rag tied up over his head to support the wrecked [164] jaw-bone. He was carried off by measles two years later in the 1955 epidemic.

226 The Seris' commercial fishing is pretty much 648 controlled and exploited by the two or three Mexi- 439 can fish traders from Nogales and Hermosillo. These have their tiendas in Desemboque, which at set price sell things to the villagers. They also 443 provide the Indians with the five horse-power motors for fishing trips and pleasure cruises and with ● [501] the oil and gasoline essential to run these—also at set price. They finally purchase the fish—at a set price—and from the proceeds the Seris purchase goods at the tiendas, completing the cycle. Not all Seris are compelled to work for the Mexicans, and, in fact, they do not always do so. Some [501] families stay away from Desemboque and depend on the sail and oars for propulsion. They come to the village only once every few months to obtain supplies. Even when in the village, the Seris make little effort to fish for more than they wish to get in order to satisfy their immediate needs.

226 Fishing expeditions usually take place in the morning. Most Seris will set off before daybreak and will return with the catch by 11 a.m. or noon.

[P 33 A]

123 As a concrete result of that first trip to Tiburon, I secured a
115 *balsa* (boat) made of *carrizo* canes lashed together with native fibre,
581 which balsa Mr. Hepe said it was the finest one in North America.

[226] This *balsa* was given to me without hesitation, although it furnished one or two families with sea food.

115 I wish to pay tribute to Senor Roberto Thomson who has been my constant companion, friend, guide and interpreter during the past twenty years, on all my trips to Tiburon and various parts of Mexico. I found him absolutely dependable, using excellent judgment in critical situations. He was honest, fair, intelligent, looking out constantly for my safety and comfort always, enduring hardships cheerfully. A better all-round out-door man I have never seen equaled. In short, he is a real *hombre*, and my *simpatico*.

13 Tiburon, or *Shark Island*, long noted for its evil reputation as
181 the home of the most savage and treacherous Indians of North America,
193 lies in latitude 29°north and 112°30' west longitude, in the Gulf of California. It is shaped like a parallelogram about thirty-five miles long and eighteen to twenty miles wide, and lies parallel to the coast of Sonora, Mexico, of which, no doubt, at some remote period, it once formed a part.

It is separated from the mainland, for the most part, by a strait called *El Infernillo*, or The Little Hell, through which the rising
[127] tides pour a resistless flood. It is a desert island and supports a desert arboreal vegetation which includes several varieties of the cactus family and the *mesquite, palo verde, palo fierro, torote, palo blanco, ocotillo* and others. The giant *saguaro, sarbasso* and *pitahalla (pit-a-haya)* cactus are found here also.

Two desert ranges run lengthwise of the Island, which, on its westward or windward side, terminate in sea-worn cliffs against whose ramparts dash the heavy breakers of the Gulf, and on its eastern side, by long alluvial aprons from the foot of the mountains, sloping gently down to the lovely shell-strewn beaches. From this side the foot of the mountains lies from two to five miles distant. On this, the leeward side of Tiburon, the sea is much calmer, and often, in the early morning, it is as smooth and placid as a lake, reflecting each rosy, lavender and purple tint of the rugged Sierra Seri along the Sonoran coast, as in a mirror. The exquisite loveliness of marvelous sunrises over the pure limpid waters of the *Estrecho Infernillo* is mystical.

138 The soil is loose and sandy, unsuitable for cultivation, and im-
241 possible for producing domestic crops of any
142 kind.

262 The Seris also eat the fruit of the *cholla* cactus, *pitahalla* and *sag-*
222 *uaro*, and probably many other plants in season, but they are wild to get flour. But the principal diet is *cahuama*, or sea turtle.

225 After a day or so with the Seris, their food supply became exhaust-
123 ed and they made arrangements to take our boat (all they had was a
[177] *balsa*) and get a sea turtle. So at four o'clock in the morning, with Roberto and Nene, his brother, and myself, they shoved off for the fishing ground. It took two hours of hard rowing to reach the Sonora
[133] side, as the tide was racing up the *Infernillo*. Most of the waters are shallow, with patches of dark and light sandy bottom, with seaweed or grass. On this green grass the turtle feeds; it is their alfalfa field, and it takes a keen-practised eye to see a turtle at the bottom and harpoon him before he escapes.

225 Once on the hunting ground, water, one of the Seris stood in the
[411] bow with a harpoon twenty feet long, a detachable barb on the end of it, and a heavy line attached. The Seri in the bow motioned with his hand this way or that, slow or fast, and watched the bottom. At last
[411] he plunged his spear and withdrew the pole. The turtle swam awhile until exhausted, and then he was drawn alongside, his head pounded with an ironwood club, and then he was turned on his back and drawn on board. This called for great skill in balancing the cranky, smooth-bottomed boat to keep it from shipping a wave.

225 When a Seri goes in his native *balsa*, which only holds one man, he
• 581 straddles the middle part on his knees, resting them on seaweed. The craft is light and is a good sea craft, but it is low in the water and the man is wet all the time. He uses a double-bladed paddle, and his harpoon rests against pegs set in the *carrizos*. A rock which serves to quiet the turtle, two pointed stakes and a heavy fish line complete the equipment. He has to paddle across to the other side in that cramped position, say eight or ten miles, very early in the morning, then watch his chance to harpoon. If successful he brings up the turtle, knocks him on the head with the rock, pulls him on the end of the craft by skillful manipulation, cut slots in the front flippers, put stakes through and into the *carrizo*, pinning him firmly in place, then paddle back.

225 The wind came up strong when we started to return from our turtle
123 hunt and with wind and tide against us we rowed across the Island. Bob and his brother disembarked and took it afoot for camp, a distance of ten miles, reaching there at two p.m. The Seris made a tump line and towed the boat, one towing and two warping off-shore until we arrived at camp about four p.m.

When the bow was run up on the shore everybody came down, the women and children talking a steady stream in their strange jargon.
123 They soon jerked the heavy turtle out, dragged him up the beach on
262 his back, and began immediately to cut him up. Bob spoke for the breast, which is a white plate on the underside of the turtle with

[text continues on p. 168]

123 We have given the Seris so much we are now short ourselves. Variety is very restricted. We haven't enough tin dishes or tools to go around, but that does not trouble us at all. All the cleaning is done in salt water and sand. Fresh water is only used to drink. Nothing else. We can't even take a shave. Not a drop of water. We are very lax in our personal toilets and appearance. We are barefooted always in the boat, as we have to wade to get the boat in deep water, and often the waves slosh on board.

This boat is made of a hollowed log twenty feet long and three feet, three inches wide, and she is very cranky. She almost upset with us several times. When everybody is placed in it, it is difficult to even change a posture without endangering everybody. She has no keel and leaks some, so we have to bail out often. But she is a good sea boat and rides the waves well if they are not too rough.

123 One evening we decided to get a message through to Juan Tomas, the 131 Chief, some twenty or thirty miles distant. Herrera promised to go if [203] we gave him twenty thirty-thirty cartridges. He would go one day and [196] return the next, a round trip of about fifty miles. We gave him the message to tell those people we had a lot of things to trade for the things they use in every day life. Pelican skin kilts, bows and arrows, ollas, baby cradles, hair brushes and other interesting things. I had already made a trade with Blanco for his *balsa*, promising him sufficient lumber, nails and tools, to make a boat large enough to carry five men. This promise I fulfilled to the letter, and later on another expedition to Seriland I had the pleasure of sailing in this boat, which was well built and seaworthy. The unusual part of this bargain was that Blanco permitted me to deprive him of his only means (apparently) of making a living in hunting *cahuama* for himself and his family, freely and without hesitation, simply on my promise of lumber in the future. I was deeply touched by the trust reposed in me by this old sea rover.

322 These people are splendid mechanics with the crudest of tools--- [94] rocks, fire, bones, knives. For instance, the pole of the harpoon was composed of five pieces of driftwood and a seagoing boat which I saw in Guaymas, captured by Mexican fishermen after killing the Seri crew, was composed of fully one hundred pieces of driftwood fastened with nails made of wire, and tied with fiber, and all the seams were filled [325] with a black composition of native origin resembling pitch. Previous to the use of old iron, harpoon points were made of ironwood, but now iron is universally used.

283 I asked old Blanco for some of his native rope. He gave me some of [124] it. He said they get the slender roots of the mesquite and peel the bark, and then the girls and women chew the fibrous wood. This is shredded and twisted into small two-stranded ropes. It is this rope, tied around and around, that holds the *carrise balsa* together.

ever washed; it is licked clean.

415 One time a bunch of Seris camped near a ranch and spied a white
197 porcelain chamber pot sunning itself. They immediately secured it and began cooking in it, without washing it first. The rancher saw them and told them that it was dirty and told them not to cook in it. They said they would clean it up after they got through and leave it as it was before they finished with it. When they come to Hermosillo they get pots from heaps of city refuse and carry them back as prizes to the Island.

123 We made smokes to attract attention, but all to no purpose, until
• 901 about three o'clock the car appeared. It could not come close to the beach as the sand was too soft, so we had to pack everything two hundred yards in soft sand. The *balsa* was very heavy and some distance away. It also had some things tied on it, so Bob pulled off his pants and we pushed it into the surf. Bob first stood up, but it rocked so he got on his knees and pushed out with a pole and got it headed to the rollers, after which it rode easier. He then lost his pole, and in struggling to recover it the *balsa* rolled over with him and dumped him in the surf, but he grabbed the side and rolled it right again. He could then touch bottom, so he came in through the surf with it and we dragged it up and unloaded three turtle shells and a few other things. There were four of us and we put oars under it and gradually lifted and carried it to the truck.

It must have weighed six hundred or seven hundred pounds, a good part of which was water. I must say I was glad to see it started on its long land-journey.

123 The Indian messenger had arrived with my note which brought the truck. Bob, Luis and the Mexican took the boat and tried to go into the place where they hid it, but it was low tide and the boat could not enter, so they beached it and walked to Agua Sarco where we had preceded them by two or three hours. We had, over the last of our grub, a little rice and beans. As many doves were flying about the water, I shot fifteen or twenty. One of my shots brought down seven doves.

439 Before night all the Seris were camped near us, and when Bob came,
123 Louis had brought all our trade stuff, so I began bartering right away.

As all were hungry we gave each man and woman three cups of flour, and three pieces of *panocha*, cakes of coarse brown sugar. They were wild for this, so when they had finished they were well disposed.

On the Island I had been called a cheerful liar for promising things, but now it was different. Three new butcher knives, all bright and shiny, I traded for three rusty homemade affairs. Two were made of barrel hoops and one from the piece of a shovel. This was a way-up knife. For the violin I traded a harmonica, and for three carved

(text continues on p. 187)

123 our rough camping, and we lived more or less like the natives, along the lines of least resistance. Shaving was unknown; washing the hands took place possibly every few days---the face never; teeth never; hair combed never; dressed, always in bed and out. We did not shed our shoes. Our revolvers were our constant bedfellows and lay in the blankets next to our right hands. But the Seris have never made a move to take the least thing that was not given to them, and made not a hostile move or look. I did see a child surreptitiously wet his fingers and wipe them across the open flour sack and lick them off, but even then his mother pulled him back.

123 484 By starlight the next morning we were up again, and ate our breakfast before sun-up. We loaded most of the groceries and things in our boat, including about eighteen gallons of water. Besides ourselves, we took Luis Torres and his wife as helper and boat-steerer. This gave us a very heavy load. Chico Romero planned to take twenty gallons of water and one sack of flour and half beans and corn, and follow in his boat.

The Seri camp was a busy place, women carrying things to the boats and preparing to leave. The camp was stripped. Much water was taken in the boats to supply the families, who for the most part walked along the shore and made short cuts through the hills, planning to meet the boats at appointed places. Two other boats started with us.

The wind was dead ahead, so our sail was useless and we unshipped the mast, and three of the men took the long oars with Luis Torres at the helm and in the bow. The boat leaked quite a great deal and it [512] kept Lupe busy bailing. Chico Romero's boat was manned at the oars by two small boys about seven or nine, and he steered with a paddle. In the other boat were three men at the paddles, three children, two dogs, cans of water and baskets and cooking things.

[501] The wind kicked up quite a heavy sea for the small Seri craft, but this narrow, heavily-laden craft met the swells and floated over them gracefully, although oftentimes the water missed coming over the gunwale by an inch or two. The children laughed gleefully, showing even rows of white teeth innocent of brush and tooth powder.

123 On rounding one rocky point three deer stood outlined against the sky, and we landed three men to try and get one, Stan among them. They returned empty-handed, except Stan, who kept ashore and followed over the hills to try for game.

At noon we landed on a beautiful sandy shore laced by the green waters of the Sea of Cortez, with Tiburon Island opposite a few miles distant. Here we unloaded and built a fire of driftwood and cooked our dinner. Stan found us---without his deer---and we ate very heartily. Beans, bread, coffee. We camped here for the night in this delightful little cove, calm and protected from the strong wind outside. Green sea, purple mountains, cloudless blue sky, a little freedom from hordes of staring Indians.

123 484 Then Chico Romero and his load of children and dogs arrived and he unloaded his impedimenta on the beach, and soon the women came walking along the beach and joined the party. The boats carrying the heavy things and children; the women, with their babies and a few light things on their heads, walk along the beach when possible and follow the boats, which hug the shore to avoid the strong currents and tide. The boats are propelled by paddles mostly, though some of the Indians use oars. The women are slightly built, slender and inclined to be gaunt, owing to the hard life and lack of food. Their cheek bones are quite prominent and their profiles present protruding lips.

501 512

422 [364] Having no permanent homes, moving hither and thither for their various food supply, household things are not accumulated and life is reduced to its very simplest elements and absolute necessities.

Crude baskets made from shoots of the torote tree, vessels in which to cook, and some patched rags in place of Pelican skins to serve as blankets to the fortunate few, constitute the family possessions. Strange to relate, many of the women have an over-supply of milk, and according to Roberto have puppies nurse what the babies cannot take. One woman was known to nurse a baby pig on one side and a puppy on the other.

231 [853]

[214] [894] Family dogs lick all cooking vessels which is unnecessary as they are thoroughly clean when the Seris are through with them, and also lick the infants clean after performing their natural functions, so they are quite indispensable. I saw a Seri girl place on the sand a small can of water for a dog and then saw her drink some of the remainder and pour the rest back in a five-gallon can. Dogs frequently swim across the Infernillo to join their masters.

732 Asked about cripples and incompetents, Roberto said they probably did not exist. The conditions of survival were too precarious to admit of anyone living who was unable, by physical disability, to hunt or fish. There are two or three men who are nearly blind or so. The wives of these men eke an uncertain living for them by the hardest struggle. The sea turtle is the staple; one man and one good boat can secure a living for five families. There are now nine boats, but one boat to a family would practically free them from continual want. With the exception of four bones in the flippers and the bones of the head, all the sea turtle is used---the meat, blood, entrails, shell which furnishes food and oil, skin of flippers which furnishes sandals, sinew for strings. Nothing is wasted except contents of the entrails.

262 483 501 262 237

123 Again, we laid our blankets on the clean white sand of the shore and were lulled to rest by the murmuring sea.

123 484 Daylight found us up the next morning, and we breakfasted, rolled up our blankets, pushed the boats into the sea and were off by the time the sun rose over the mountains and shone over a glassy sea. Two Seris towed their boat by a tump line, while a boy of twelve steered

123 and on our way, headed south, rounding the point with the tide in our
484 favor. It was a rowing proposition. During mornings the sea is calm and the swells glassy. Usually at noon the wind comes up, mostly ahead and against us. Last night we could see the light of a camp fire on the point opposite us, and soon we spied a boat headed for the Island. We had left the women and older children to walk and they met us where we landed. At noon we camped for dinner in a lovely cove, and soon three other boats joined us with their cargoes of women, children and dogs. We ate quickly and got under way again as soon as possible, and even then we were the last boat. The trip was bad, as all the people were loaded in the boats which made them low in the water.

123 It was a pretty sight to see the Seris in their *pangas*, boats
484 shaped like dories, graceful, narrow and swift, kneel in the bottom
501 and dip their broad paddles into the waves and shoot into the open sea like dark-skinned Vikings, wild hair flying.

As soon as we emerged from the cove the wind and tide struck us dead ahead, and progress was slow although the swells were behind us. After rounding a point the wind blew on the forward quarter and all the boats, now increased to five, hoisted their sails. We also stepped our mast, sheeted our flour-sack sail, and bowled through the sea, carrying a bone in our mouth.

Chico's boat ahead had no sail and when we neared it, steered with superb skill by the wild-looking Seri, Luis Torres, he had a tow line aboard and thereafter we held him in tow until finally the wind shifted dead ahead and all the boats lowered their sails, unstepped their masts and began paddling. One *panga* had a sail with part of it loose and flapping at the top like a flag. Roberto said the Seris did not want to cut off this useless piece for fear of spoiling the sail, so there it flapped whenever the sail was sheeted home.

123 About three thirty in the afternoon we rounded a bold rocky point
484 and entered a beautiful curving bay of quiet water, and here we landed for the night camp. Soon all the boats were unloaded. Men and children hunted driftwood for camp fires, two boats at our insistence set off fishing, and Stan and three Seris took their rifles and went hunting. All parties later returned without fish or game, so, as our meat had disappeared like a beautiful dream, we had to dig into our corn and flour to feed thirty or forty hungry Indians. The children stood about like a bunch of hungry cormorants and we promised them *pinole*, or flour paste.

123 Looking at these half naked children with their swarthy little
177 bosoms bare and most of them bare from the waist down, I dug out some safety pins and began with the little girl Luz, who was vigorously stirring the paste mass and pinned her waist over her bare breast and tummy with two bright safety pins. She never ceased stirring. Each bare breast I pinned the shirt over as the night was chilly. The children quick to catch on and keen with desire born of privation, each pulled his or her shirt open even when it had a button, or had

642 [226] [501] [721] [582] [628]

BAND V

These people were apparently hunters, gatherers, and fishermen. It is said that they speared fish from the shore since they did not use balsas. They too apparently raided the ranches. Their warring nature has already been discussed; it resulted in the acquisition of few friends. However, several marriages between members of this band and members of subdivision 2 of Band III are said to have occurred.

BAND VI

[131] [342] [501] [411] [262]

The members of Band VI lived on San Esteban Island and were the most primitive of the tribe. They lived in huts made of driftwood and in caves and made extensive use of the balsa. Although they did not have the bow and arrow, they did become expert in the use of the spear. The people depended mainly on a seafood, iguana, and maguey diet.

621 628 578 [157]

Perhaps it was due to the confined living space on the small island with the accompanying lack of fresh water that relations between the four subdivisions were precarious and fights broke out frequently. The Seri today stress the fact that the members of this band were impetuous and unpredictable.

642 [574] [628]

Their relations with the other bands were generally good however. Seri from Band III were free to visit San Esteban where they were well treated.

[484] [191] [648]

The San Esteban people seldom traveled to the mainland, and, since they spoke no Spanish, it is probable that they made no peaceful contact with non-Seri groups.

642 628 578 648

COLLAPSE OF THE BAND SYSTEM

Internal strife in the Seri tribe was probably a major factor in the establishment of the band system. External strife was a major factor in its downfall.

[021]

Reference has been made to the plundering, killings and rustling of cattle to which certain of the bands were dedicated. The concern of the Sonora government was aroused, and steps were taken to crush the rebellious groups. According to the present-day Seri, military action by army units and rancher outfits against the various bands resulted in the near-destruction of the whole tribe.[11]